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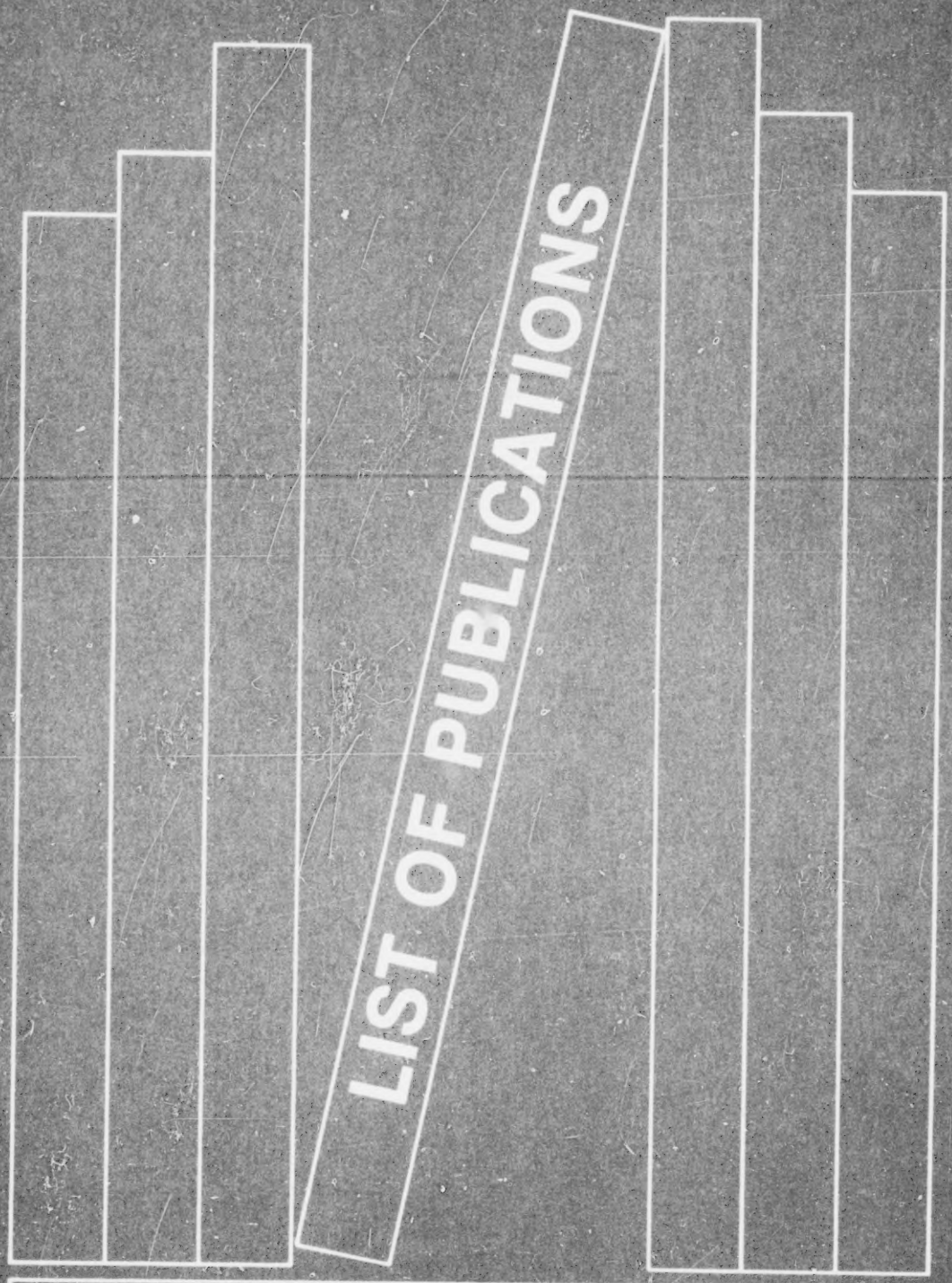


CONGRESS OF THE UNITED STATES
**Office of Technology Assessment**

J952-43

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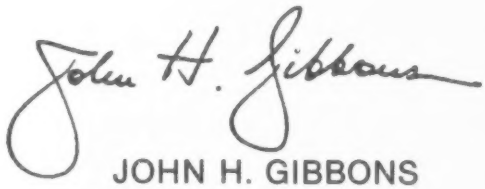
# Preface

The Office of Technology Assessment (OTA) was established by Congress to provide committees with analytical assistance on difficult issues which involve science and technology. Governed by a bipartisan, bicameral congressional board, OTA provides a variety of services to the Senate and House on a broad range of issues. Services include testimony and briefings on major assessments requiring more than 2 years to complete. OTA makes technical findings, identifies and describes options, but does not advocate particular policies.

OTA's multidisciplinary staff plans, directs, and drafts all assessments. It draws extensively on the broad technical and professional resources of the private sector, including the universities, research organizations, industry, and public interest groups.

The publications listed in this brochure are the result of various assessments and analyses requested by the committees of Congress. This listing, organized by OTA Program area, will be revised periodically as further reports are published by OTA.



JOHN H. GIBBONS
*Director*

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For information on the operation of OTA or the nature and status of ongoing assessments write or call:

Congressional and Public Affairs Office
Office of Technology Assessment
U.S. Congress
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## Categories of Reports Issued by OTA

**OTA Reports** are the principal documentation of formal assessment projects. These projects are approved in advance by the Technology Assessment Board. At the conclusion of a project, the Board has the opportunity to review the report but its release does not necessarily imply endorsement of the results by the Board or its individual members.

**OTA Technical Memoranda** are issued on specific subjects analyzed in recent OTA reports or in projects presently in process at OTA. They are issued at the request of committees or Members of Congress who are engaged in committee legislative actions.

**OTA Background Papers, Case Studies, and Workshop Proceedings** are documents that contain information that supplements formal OTA assessments or is an outcome of internal exploratory planning and evaluation. The material is usually not of immediate policy interest such as is contained in an OTA Report or Technical Memorandum, nor does it present options for Congress to consider.

## How To Obtain OTA Publications

Most OTA publications listed in this brochure are available for sale through the Government Printing Office (GPO) and/or the National Technical Information Service (NTIS). In addition, many of OTA's reports are being reprinted by private publishers. They are described in the listings where applicable and can be ordered direct. Most OTA reports are also distributed automatically to approximately 700 Regional Depository Libraries throughout the country and may be included in the Government Documents collection of university and public libraries in your area. Please consult your librarian for additional information.

## Ordering Information

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U.S. Government Printing Office
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Orders must include the title, GPO stock number, and the proper remittance.

To order from NTIS:

National Technical Information Service
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Springfield, VA 22161
Telephone (703) 487-4650

Documents can be ordered from NTIS in either paper or microfiche format.

An order blank for GPO and NTIS orders is included in the back of this brochure for your convenience. **(NOTE: Orders may be charged on either Visa or MasterCard.)**

To order from OTA Publishing Office **(NOTE: only those listed as available from OTA):**

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If you encounter difficulty and need assistance in the purchase or receipt of publications from GPO or NTIS listed in this document, please notify the OTA Publishing Office at the above address.

# ENERGY & MATERIALS

## *New Electric Power Technologies: Problems and Prospects for the 1990s*

Examines the development of a series of new technologies encouraged by the Federal Government that offer greater flexibility to utilities. Technologies to be examined include: utility-controlled load management; fuel cells; advanced coal- and gas-combustion; photovoltaics, solar thermal power, wind, and geothermal.

**New Electric Power Technologies: Problems and Prospects for the 1990s.** July 1985; 340 pages. GPO stock #052-003-01005-4; $12.00.

**Summary** available from OTA Publishing Office.

## *U.S. Natural Gas Availability*

Analyzes the key technical and physical parameters that determine the resource base, production rates, and costs of all categories of below-ground natural gas; critically reviews current estimates of the resource base, estimates the potential production rates of natural gas, and the uncertainties in these estimates; and assesses future technology trends and R&D needs that may accelerate these trends.

**U.S. Natural Gas Availability: Gas Supply Through the Year 2000.** February 1985; 260 pages. GPO stock #052-003-00986-2; $7.50.

**Summary** available from OTA Publishing Office.

Evaluates the future prospects for the discovery and production of conventional natural gas in the Lower 48 States and examines the gas resource base and future production potential.

**U.S. Natural Gas Availability: Conventional Gas Supply Through the Year 2000—A Technical Memorandum.** September 1983; 108 pages. NTIS order #PB 84-114 909.

## *U.S. Vulnerability to an Oil Import Curtailment*

Provides an analysis of the technical potential for replacing large quantities of oil in the United States over a 5-year period by fuel substitution and conservation in the event of an extended oil supply shortfall and price rise; analyzes the macro-economic consequences of the shortfall and various rates of oil replacement by the technologies.

**U.S. Vulnerability to an Oil Import Curtailment: The Oil Replacement Capability.** September 1984; 158 pages. GPO stock #052-003-00963-3; $5.50. NTIS order #PB 85-127 785.

**Summary** available from OTA Publishing Office.

**Volume II, Working Papers: Parts 1-4,** available from NTIS.

## *Federal Coal Leasing Program*

Outlines DOI's pre-lease environmental assessment and planning process, describes how that process was implemented in the five West-

ern coal regions, discusses the issues that have been raised with respect to the adequacy of that process and its implementation, and reviews policy options that would allow leasing to proceed in an environmentally compatible manner.

**Environmental Protection in the Federal Coal Leasing Program.** May 1984; 154 pages. GPO stock #052-003-00954-4; $5.50. NTIS order #PB 84-222 413.

## *Nuclear Power in an Age of Uncertainty*

Examines the future of nuclear power in this country; describes the current technological, economic, financial, public perception, and regulatory problems facing the domestic nuclear industry; identifies how various changes might affect the industry's future.

**Nuclear Power in an Age of Uncertainty.** February 1984; 293 pages. GPO stock #052-003-00941-2; $10.00. NTIS order #PB 84-183 953.

**Summary** available from OTA Publishing Office.

**Volume II, Working Papers: Parts 1-3,** available from NTIS.

## *Industrial Energy Use*

Examines energy use in the industrial sector in general and in the largest energy-using industries—pulp and paper, petroleum refining, chemicals, and steel.

**Industrial Energy Use.** June 1983; 174 pages. GPO stock #052-003-00915-3; $6.00. NTIS order #PB 83-240 606.

**Summary** available from OTA Publishing Office.

## *Industrial and Commercial Cogeneration*

Examines the role that cogenerators could play in providing electric and thermal energy for industrial and commercial facilities; reviews the economic, environmental, social, and institutional consequences of cogeneration; and analyzes policy options that Congress may wish to consider.

**Industrial and Commercial Cogeneration.** February 1983; 299 pages. NTIS order #PB 83-180 547.

**Summary** available from OTA Publishing Office.

## *Increased Automobile Fuel Efficiency and Synthetic Fuels*

Assesses and compares increased automobile fuel efficiency and synthetic fuels production with respect to their potential to reduce conventional oil consumption, and their costs and impacts.

**Increased Automobile Fuel Efficiency and Synthetic Fuels: Alternatives for Reducing Oil Imports.** September 1982; 293 pages. NTIS order #PB 83-126 094.

**Summary** available from OTA Publishing Office.

**Background Papers, Parts 1-5,** available from NTIS.

## *Energy Efficiency of Buildings in Cities*

Focuses on the interaction of technology and policy for new and existing residential and commercial buildings in U.S. cities for the next two decades.

**The Energy Efficiency of Buildings in Cities.** March 1982; 361 pages. NTIS order #PB 82-200 346.

**Summary** available from OTA Publishing Office.

**Volume II and III, Working Papers** available from NTIS.

## *Solar Power Satellite Systems*

Identifies and analyzes the key issues that need resolution before decisions whether or not to develop major solar power satellite systems can be made.

**Solar Power Satellite Systems and Issues.** August 1981; 298 pages. NTIS order #PB 82-108 846.

**Summary** available from OTA Publishing Office.

## *Nuclear Powerplant Standardization*

Provides the essential background material for a broad understanding of the nuclear industry, its institutions and their relationship to standardization to improve both safety and licensability.

**Nuclear Powerplant Standardization: Light Water Reactors.** April 1981; 63 pages. NTIS order #PB 81-213 589.

**Volume II: Appendixes, Parts A&B,** available from NTIS.

## *World Petroleum Availability*

Examines prospects for world oil supplies and production in coming decades. Analyzes country-by-country supply prospects and the potential for new discoveries, and estimates what these countries will actually produce.

**World Petroleum Availability: 1980-2000—A Technical Memorandum.** October 1980; 88 pages. GPO stock #052-003-00781-9; $4.75. NTIS order #PB 81-145 252. Also available from McGraw-Hill, New York, NY.

## *Biomass*

Evaluates the energy potential of plant and animal matter (biomass), concentrating on four biomass fuel cycles—wood, alcohol fuels, grasses and crop residues, and animal wastes. Describes biomass' place in two plausible energy futures and discusses policy options.

**Energy From Biological Processes.** July 1980; 195 pages. NTIS order #PB 80-211 477. Also available in hardback under the title "Energy From Biological Processes: Technical and Policy Options" from Westview Press, Inc., Boulder, CO.

**Summary** available from OTA Publishing Office.

**Volume II: Technical Report,** available from NTIS. Also available in hardcover from Ballinger Publishing Co. Cambridge, MA; and in paperback from McGraw-Hill, New York, NY.

**Volume III: Appendixes, Parts A-C,** available from NTIS.

## *DOE Conservation and Solar Programs*

Analyzes the progress and direction of five major conservation and solar energy programs of the U.S. Department of Energy to provide an overview of their balance and long-range potential, and whether they reflect administration and congressional goals.

**Conservation and Solar Energy Programs of the Department of Energy—A Critique.** June 1980; 80 pages. NTIS order #PB 80-197 759.

## *Liquefied Natural Gas*

Evaluates projected U.S. demand, global availability, cost and financing, and security of foreign supplies.

**The Future of Liquefied Natural Gas Imports.** March 1980; 126 pages. NTIS order #PB 80-173 552.

## *Gasohol*

Discusses the technology and economics of gasohol production, and examines the environmental, social, and institutional impacts of its use as a transportation fuel.

**Gasohol—A Technical Memorandum.** September 1979; 71 pages. NTIS order #PB 80-105 885.

## *Residential Energy Conservation*

Examines the prospects of existing and new technologies for reducing energy consumption in homes, as well as the effectiveness of Federal programs and policies for achieving energy conservation in residences.

**Residential Energy Conservation.** July 1979; 355 pages. NTIS order #PB 298 410. Also available under the title "Energy Conservation Techniques for Homes and Other Structures" from Allanheld, Osmun & Co., Totowa, NJ.

**Volume II: Working Papers** available from NTIS.

## *The Direct Use of Coal*

Assesses the prospects as well as the environmental, health, safety, and other problems of mining and burning significantly more coal than now. Also examines the complete coal system from extraction to combustion, including the key steps and institutions that policy can influence.

**The Direct Use of Coal: Prospects and Problems of Production and Combustion.** April 1979; 411 pages. NTIS order #PB 295 797. Also available from Ballinger Publishing Co., Cambridge, MA.

**Volume II, Working Papers: Parts A-D,** available from NTIS.

## *Onsite Solar Energy*

Evaluates the economic, technical, and environmental impacts of solar energy systems located at the point of use. Also discusses legal and regulatory concerns, various technologies, energy storage problems, and alternative Federal policies for supporting the development of onsite solar technology.

**Volume I: Application of Solar Technology to Today's Energy Needs.** June 1978; 525 pages. NTIS order #PB 283 770.

**Volume II.** NTIS order #PB 289 762.

## *Coal Slurry Pipelines*

Compares the cost of transporting coal by slurry pipelines to rail for certain routes, and assesses the impact of the proposed pipelines on the railroad industry as well as on water supplies in the Western United States.

**A Technology Assessment of Coal Slurry Pipelines.** March 1978; 155 pages. NTIS order #PB 278 675.

**Summary** available from OTA Publishing Office.

**Volume II, Task Reports: Parts 1 and 2,** available from NTIS.

## *Enhanced Oil Recovery*

Assesses the potential for increasing domestic production of oil by applying developing technologies to known reservoirs.

**Enhanced Oil Recovery Potential in the United States.** January 1978; 238 pages. NTIS order #PB 276 594. Also available from McGraw-Hill, New York, NY.

## *Devonian Shale Gas*

Analyzes the potential for producing gas from Devonian shales of the Appalachian Basin using existing technologies under a variety of economic assumptions.

**Gas Potential From Devonian Shales of the Appalachian Basin.** November 1977; 81 pages. NTIS order #PB 274 856.

## *Nuclear Proliferation*

Examines several nuclear power fuel cycles and ancillary enrichment and reprocessing technologies for their impact on the risks of the proliferation of nuclear weapons to nations or other groups that do not now possess them.

**Nuclear Proliferation and Safeguards.** June 1977; 270 pages. NTIS order #PB 275 843. Also available from Praeger Publishing Co., New York, NY.

**Summary** available from OTA Publishing Office.

**Volume II, Appendix: Parts 1 and 2,** available from NTIS.

# INDUSTRY, TECHNOLOGY, & EMPLOYMENT

## *U.S. Import Vulnerability*

Identifies major changes in materials vulnerability that are likely to occur over the next 25 years because of advances in such fields as electronics, energy, and transportation.

**Strategic Materials: Technologies to Reduce U.S. Import Vulnerability.** May 1985, 400 pages. GPO stock #052-003-00979-0; $14.00.

**Summary** available from OTA Publishing Office.

## *Superfund Strategy*

Examines future Superfund needs and how permanent cleanups can be accomplished in a cost-effective manner for diverse types of sites; describes the interactions among many components of the complex Superfund system; and analyzes the consequences of pursuing different strategies for implementing the program.

**Superfund Strategy.** April 1985; 292 pages. GPO stock #052-003-00994-3; $10.00.

**Summary** available from OTA Publishing Office.

## *Wood Use: U.S. Competitiveness and Technology*

Surveys the contribution of the forest products industry to the U.S. economy; the ability of the industry and the U.S. forest resource to satisfy expected domestic demands for wood; the competitiveness of U.S. forest products in world markets; and the role of technology in stretching the U.S. forest resource and providing products that satisfy domestic needs as well as international markets.

**Wood Use: U.S. Competitiveness and Technology.** August 1983; 202 pages. GPO stock #052-003-00921-8; $6.00. NTIS order #PB 84-109 925.

**Summary** available from OTA Publishing Office.

**Volume II: Technical Report.** GPO stock #052-003-00975-7; $4.50. NTIS order #PB 85-156 081/AS.

## *Hazardous Waste Control*

Assesses the criteria for defining hazardous waste and for judging the relative health and environmental hazards of a given waste; evaluates technologies for cleaning up current waste disposal sites that are hazardous to health and the environment; assesses technologies and approaches for the safe treatment, storage, or disposal of hazardous waste; and examines technologies and approaches for reducing the volume of hazardous waste.

**Technologies and Management Strategies for Hazardous Waste Control.** March 1983; 407 pages. GPO stock #052-003-00901-3; $8.50. NTIS order #PB 83-189 241.

**Summary** available from OTA Publishing Office.

**Volume II, Working Papers: Parts A-D,** available from NTIS.

**Habitability of the Love Canal Area: An Analysis of the Technical Basis for the Decision on the Habitability of the Emergency Declaration Area—A Technical Memorandum.** June 1983; 58 pages. GPO stock #052-003-00917-0; $4.00. NTIS order #PB 84-114 917.

**Nonnuclear Industrial Wastes: Classifying for Hazards Management —A Technical Memorandum.** November 1981; 36 pages. NTIS order # PB 82-134 305.

## *Development and Production Potential of Federal Coal Leases*

Analyzes all mining activities on Federal leases, examines the development potential of outstanding leases, estimates revenues to the Federal Government, and examines the feasibility of using deep-mining technology in leased areas.

**An Assessment of Development and Production Potential of Federal Coal Leases.** December 1981; 473 pages. NTIS order #PB 82-149 378.

**Summary** available from OTA Publishing Office.

**Volume II, Working Papers: Parts A-I,** available from NTIS.

## *Federal Coal Lease Ownership*

Traces the history of the 538 Federal coal leases in existence at the end of 1979, and identifies the participants in the Federal coal leasing program between 1950 and 1980.

**Patterns and Trends in Federal Coal Lease Ownership, 1950-80—A Technical Memorandum.** March 1981; 76 pages. NTIS order #PB 81-188 484.

## *Technology and Steel Industry Competitiveness*

Assesses how and when new technology can improve the international competitiveness of the U.S. steel industry; examines the governmental and industrial barriers to creating and adopting technological innovations.

**Technology and Steel Industry Competitiveness.** June 1980; 374 pages. NTIS order #PB 80-208 200.

**Summary** available from OTA Publishing Office.

## *Oil Shale Technologies*

Assesses the status and potential of technologies for the development of oil shale resources, including environmental and socioeconomic impacts, water demand and availability, and institutional and financial considerations. Includes a history and analysis of the Federal Prototype Oil Shale Leasing Program.

**An Assessment of Oil Shale Technologies.** June 1980; 518 pages. NTIS order #PB 80-210 115. Also available from McGraw-Hill, New York, NY.

**Summary** available from OTA Publishing Office.

**Volume II: A History and Analysis of the Federal Prototype Oil Shale Leasing Programs,** available from NTIS.

## *Continuous Casting in the U.S. Steel Industry*

Describes the continuous casting process, contrasts the rate of its adoption by U.S. and foreign steel industries, and examines the economic costs and benefits of accelerated conversion to this new technology.

**Benefits of Increased Use of Continuous Casting by the U.S. Steel Industry—A Technical Memorandum.** October 1979; 32 pages. NTIS order #PB 80-104 904.

## *Conservation of Metals*

Explores the kinds and amounts of waste that occur in U.S. use of eight critical metals and the technical options for reducing that waste.

**Technical Options for Conservation of Metals: Case Studies of Selected Metals and Products.** September 1979; 125 pages. NTIS order #PB 80-102 619.

**Volume II, Working Papers: Parts A-F,** available from NTIS.

## *Materials and Energy From Municipal Waste*

Examines present and potential technologies for producing energy and recovering resources from municipal solid waste, and assesses the economic and institutional impacts of an expanded program of recycling and reuse.

**Materials and Energy From Municipal Waste: Resource Recovery and Recycling From Municipal Solid Waste and Beverage Container Deposit Legislation.** July 1979; 284 pages. NTIS order #PB 300 849.

**Volume II, Working Papers,** available from NTIS.

## *Management of Minerals in Federal Lands*

Analyzes Federal laws and practices that govern the exploration, development, and production of fuel and nonfuel minerals in onshore Federal lands.

**Management of Fuel and Nonfuel Minerals in Federal Lands.** April 1979; 435 pages. NTIS order #PB 295 788.

## *Access Across Federal Lands*

Analyzes laws, regulations, and policies affecting access across federally owned lands to minerals on non-Federal lands, with special emphasis on Alaska.

**Analysis of Laws Governing Access Across Federal Lands: Options for Access in Alaska.** February 1979; 260 pages. NTIS order #PB 293 982.

**Volume II, Working Papers,** available from NTIS.

## *Chronic Materials Scarcity*

Consists of the proceedings of a conference on national materials policy conducted by the Federation of Materials Societies from August 8-13, 1976, at Henniker, NH. The conference examined the interrelationship of engineering and the policy implications of potential scarcities of various materials.

**Engineering Implications of Chronic Materials Scarcity.** April 1977; 320 pages. NTIS order #PB 273 193.

## *Materials Information Systems*

Analyzes the ability of existing information systems, relied on by Government and business policymakers for data on the supply and demand for materials, to help avert future shortages and solve other materials-related problems.

**An Assessment of Information System Capabilities Required To Support U.S. Materials Policy Decisions.** December 1976; 249 pages. NTIS order #PB 273 462.

## *Alternative Stockpiling Policies*

Assesses the social, political, and economic impacts of six alternative policies for stockpiling materials for purposes other than national security; for use, for example, in the event of sudden and unexpected shortages.

**An Assessment of Alternative Economic Stockpiling Policies.** August 1976; 327 pages. NTIS order #PB 273 191.

# INTERNATIONAL SECURITY & COMMERCE

## *Energy Technology Transfer to China*

Addresses the question of whether the flow of U.S. energy technology to China can help to serve U.S. foreign policy and commercial interests.

**Energy Technology Transfer to China—A Technical Memorandum.** September 1985; 124 pages. GPO stock #052-003-01007-1; $4.50.

## *Ballistic Missile Defense Technologies*

Examines the potential roles of various levels of BMD deployments in U.S. national defense strategy and the potential implications of BMD for strategic stability and arms control. Also assesses the status of the new technologies applicable to BMD.

**Ballistic Missile Defense Technology.** September 1985; 336 pages. GPO stock #052-003-01008-9; $12.00.

**Summary** available from OTA Publishing Office.

Examines the range of current and potential anti-satellite weapons and countermeasures and discusses a range of potential arms control regimes.

**Anti-Satellite Weapons, Countermeasures, and Arms Control.** September 1985; 160 pages. GPO stock #052-003-01009-7; $6.00.

**Summary** available from OTA Publishing Office.

## *Civilian Space Activities*

Evaluates the current status of international competition and cooperation in key areas of space technology, in space science, and for educational and scientific exchange; assesses ways in which space technologies and their products could be used as instruments of U.S. foreign policy, and examines military space activities insofar as they affect civilian programs and international commercial and political relations.

**International Cooperation and Competition in Civilian Space Activities.** June 1985; 408 pages. GPO stock #052-003-00958-7; $17.00.

**Summary** available from OTA Publishing Office.

This technical memorandum is designed to help determine the appropriate requirements and conditions for private sector ownership of the U.S. land remote-sensing system.

**Remote Sensing and the Private Sector: Issues for Discussion—A Technical Memorandum.** March 1984; 141 pages. GPO stock #052-003-00945-5; $6.00. NTIS order #PB 84-180 777.

Discusses the issues which arose at this conference, and assesses their significance for "international competition and cooperation in civilian space activities."

**UNISPACE '82: A Context for International Cooperation and Competition—A Technical Memorandum.** March 1983; 85 pages. GPO stock #052-003-00903-3; $5.50. NTIS order #PB 83-201 848.



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## *Technology Transfer to the Middle East*

Assesses international competition in Middle East technology trade during the past decade, with special attention to transfer of five types of advanced civilian technology; analyzes technology absorption by the recipients in the Islamic Middle East, and the benefits and problems associated with technology transfer for both the recipients and suppliers of technology; includes an analysis of future prospects for technology trade.

**Technology Transfer to the Middle East.** September 1984; 612 pages. GPO stock #052-003-00962-5; $17.00. NTIS order #PB 85-127 744.

**Summary** available from OTA Publishing Office.

## *Arms Control in Space*

Summary of findings and proceedings of a workshop held by OTA in Washington, DC, on January 30 and 31, 1984, to explore and examine possible restrictions on anti-satellite (ASAT) weapons as one aspect of space arms control.

**Arms Control in Space—Workshop Proceedings.** May 1984; 68 pages. GPO stock #052-003-00952-8; $3.00. NTIS order #PB 84-198 209.

## *Directed Energy Missile Defense in Space*

Describes and assesses current concepts for directed energy ballistic missile defense in space.

**Directed Energy Missile Defense in Space—Background Paper.** April 1984; 98 pages. GPO stock #052-003-00948-0; $4.50. NTIS order #PB 84-210 111.

## *International Competitiveness in Electronics*

Examines those factors contributing to the international competitiveness of the U.S. electronics industry, emphasizing those factors that could most readily be affected by U.S. Government policy.

**International Competitiveness in Electronics.** November 1983; 546 pages. GPO stock #052-003-00933-1; $17.00. NTIS order #PB 84-170 695.

**Summary** available from OTA Publishing Office.

## *Technology and East-West Trade*

Examines the economic, military, and political implications of technology transfer to the Communist world; reviews existing policies and regulations governing this transfer; and discusses the issues and options in increased East-West trade.

**Technology and East-West Trade.** November 1979; 303 pages. NTIS order #PB 80-119 381. Also available in hardback from Allanheld, Osmun & Co., Totowa, NJ.

Reviews events since the publication of *Technology and East-West Trade* in 1979, and discusses the political, military, and commercial

issues arising in congressional debate over the renewal of the Export Administration Act.

**Technology and East-West Trade: An Update.** May 1983; 106 pages. GPO stock #052-003-00908-1; $4.75. NTIS order #PB 83-234 955.

## *Technology and Soviet Energy Availability*

Analyzes and identifies various U.S. and other Western energy technologies that might be of value to the Soviet Union. Examines the impact of their availability on Soviet energy production to 1990 and discusses the policy options available to the Soviets by way of other Warsaw Pact countries, the Western importers of Soviet energy, and the Middle East.

**Technology and Soviet Energy Availability.** November 1981; 405 pages. NTIS order #PB 82-133 455. Also available in hardback from Westview Press, Inc., Boulder, CO.

**Summary** available from OTA Publishing Office.

## *MX Missile Basing*

Assesses the technical feasibility, strategic utility, cost, impact on the region, and future consequences of various MPS-basing modes, and of alternative missile-basing modes that merit serious attention.

**MX Missile Basing.** September 1981; 335 pages. GPO stock #052-003-00849-1; $9.00. NTIS order #PB 82-108 077.

**Summary** available from OTA Publishing Office.

## *U.S. Industrial Competitiveness*

Compares the international competitiveness of three U.S. industries —steel, electronics, and automobiles—and evaluates the prospects for better integration of policies affecting industries in the United States.

**U.S. Industrial Competitiveness—A Comparison of Steel, Electronics, and Automobiles.** July 1981; 206 pages. NTIS order #PB 81-235 749.

**Summary** available from OTA Publishing Office.

## *Taggants in Explosives*

Assesses the technical feasibility, safety ramifications, costs, and law enforcement utility of a proposal to require that commercial explosives be manufactured with "identification taggants" (designed to survive an explosion and trace the source of the explosives) and "detection taggants" (designed to allow a suitable machine to sense the presence of explosives inside a suitcase, package, etc.).

**Taggants in Explosives.** April 1980; 263 pages. NTIS order #PB 80-192 719.

**Summary** available from OTA Publishing Office.

## *Effects of Nuclear War*

Examines the social, economic, political, and health effects of various levels of nuclear attacks on the United States and the Soviet Union. Also identifies the large areas of uncertainty regarding what those effects would be.

**The Effects of Nuclear War.** May 1979; 151 pages. GPO stock #052-003-00668-5; $6.50. NTIS order #PB 296 946. Also available in hardback from Allanheld, Osmun & Co., Totowa, NJ. A somewhat modified version is available in paperback from Cheshire Books (Kampmann & Co., dist., New York, NY) under the title "The Day After Midnight: The Effects of Nuclear War."

**Summary** available from OTA Publishing Office.

# BIOLOGICAL APPLICATIONS

## *Alternatives to Animal Use*

Examines the current patterns of acquisition and use of animals in the different disciplines of toxicity testing and biomedical and behavioral research. Evaluates the feasibility and cost of developing technologies, and analyzes regulatory testing requirements in both the United States and selected foreign countries to determine whether they can be made more uniform in their acceptance of non-animal test results.

**Alternatives to Animal Use in Research, Testing, and Education.** In progress, contact OTA Publishing Office.

## *Reproductive Health Hazards in the Workplace*

Evaluates the current scientific knowledge base with respect to reproductive hazards in order to outline policy options for the management of reproductive hazards in the workplace.

**Reproductive Health Hazards in the Workplace.** In progress, contact OTA Publishing Office.

## *Technology and Aging in America*

Assesses the impact of technology in four areas—health and life sciences, employment, housing and public services, and international aspects.

**Technology and Aging in America.** June 1985; 504 pages. GPO stock #052-003-00970-6; $17.00.

**Summary** available from OTA Publishing Office.

Focuses on the status of basic neuroscience research, and investigates not only the current status and potential medical applications, but also includes broad social and ethical issues that might arise from such research.

**Impacts of Neuroscience—Background Paper.** March 1984; 36 pages. GPO stock #052-003-00946-3; $2.50. NTIS order #PB 84-196 716.

**Volume II, Working Papers,** available from NTIS.

## *Human Gene Therapy*

Assesses the state of the art of technology involved with treating human genetic effects. Describes techniques and the diseases likely to be treated in the near future; discusses possible long-term effects on human genetic diseases and the human gene pool, and sketches some ethical dilemmas.

**Human Gene Therapy—Background Paper.** December 1984; 116 pages. GPO stock #052-003-00983-8; $5.50. NTIS order #PB 85-206 076/AS.

## *Commercial Biotechnology*

Describes the state of the art of biotechnology as applied to industries involved in agriculture, and production of pharmaceuticals and chemicals; environmental applications in such areas as mining, pollution control, oil recovery, and toxic waste treatment; and analyzes some factors that will affect commercial development of biotechnology.

**Commercial Biotechnology: An International Analysis.** January 1984; 613 pages. GPO stock #052-003-00939-1; $20.00. NTIS order #PB 84-173 608. Also available in hardcover from Pergamon Press, Inc., Elmsford, NY.

**Summary** available from the OTA Publishing Office.

## *Genetic Testing*

Examines questions on the technological state of the art; claimed associations between certain genetic characteristics and increased risk of harm from certain chemicals; protection to workers from discriminatory practices that is provided by existing law; and ethics and economics of genetic testing.

**The Role of Genetic Testing in the Prevention of Occupational Disease.** April 1983; 243 pages. GPO stock #052-003-00906-4; $6.50. NTIS order #PB 83-233 734.

**Summary** available from OTA Publishing Office.

## *World Population and Fertility Planning Technology*

Addresses issues of how Government policies and programs view planned birth technologies, and how international population assistance has changed world population growth in the last 20 years. Assesses present and prospective birth technologies and factors determining their future development and use.

**World Population and Fertility Planning Technologies: The Next 20 Years.** February 1982; 243 pages. GPO stock #052-003-00867-0; $7.50. NTIS order #PB 82-200 338.

**Summary** available from OTA Publishing Office.

**Volume II: Working Papers: Parts A-E,** available from NTIS.

## *Impacts of Applied Genetics*

Examines the application of classical and molecular genetic technologies to micro-organisms, plants, and animals. Current developments are especially rapid in the application of genetic technologies to micro-organisms; these are studied in three industries: pharmaceutical, chemical, and food.

**Impacts of Applied Genetics: Micro-Organisms, Plants, and Animals.** April 1981; 331 pages. GPO stock #052-003-00805-0; $9.00. NTIS order #PB 81-206 609. Also available in hardback under the title "Genetic Technologies: A New Frontier" from Westview Press, Inc., Boulder, CO.

**Summary** available from OTA Publishing Office.

**Volume II: Appendixes, Parts A & B,** available from NTIS.

# FOOD & RENEWABLE RESOURCES

## *Innovative Biological Technologies for Lesser Developed Countries*

Workshop proceedings held in November 1980. Discusses the U.S. Agency for International Development and its role in using, promoting, and developing innovative biological technologies to help lesser developed countries enhance the productivity of their soils, reduce their need for costly chemical fertilizers, and increase food supplies.

**Innovative Biological Technologies for Lesser Developed Countries—Workshop Proceedings.** July 1985; 252 pages. GPO stock #052-003-01003-8; $9.00.

## *Technologies to Benefit Agriculture and Wildlife*

Workshop proceedings presenting a broad range of papers on specific technologies that could benefit both agricultural production and wildlife habitat requirements on private lands. Also describes some constraints and opportunities to integrate agriculture and wildlife concerns and discusses policy opportunities for improved agriculture and wildlife integration.

**Technologies to Benefit Agriculture and Wildlife—Workshop Proceedings.** May 1985; 146 pages; GPO stock #052-003-00996-0; $5.00. NTIS order #PB 85-239 747/AS.

## *Technology, Public Policy, and the Changing Structure of American Agriculture*

Focuses on future and emerging technologies in other animal, plant, chemical, mechanization, and information areas and their implications for agricultural structure. Also explores linkages between policy and structure for a clearer understanding of the factors that influence the evolution of the agricultural sector.

**Technology, Public Policy, and the Changing Structure of American Agriculture.** In progress, contact OTA Publishing Office.

Special report focusing on three main policy areas of the reauthorization of the Agriculture and Food Act of 1981: commodity, credit, and research and extension.

**Technology, Public Policy, and the Changing Structure of American Agriculture: A Special Report for the 1985 Farm Bill.** March 1985; 100 pages. GPO stock #052-003-00990-1; $3.75.

## *Africa Tommorrow*

Defines various issues in technology development, technology transfer, and technical assistance which could be considered as an effective strategy to assist African countries in enhancing their food production.

**Africa Tommorrow: Issues in Technology, Agriculture, and U.S. Foreign Aid—A Technical Memorandum.** December 1984, 148 pages. GPO stock #052-003-00985-4; $5.50. NTIS order #PB 85-238 624.

## *Technology, Renewable Resources, and American Crafts*

Summarizes technology's effects on crafts (some of which are folk and fine art) that use renewable resources as raw materials.

**Technology, Renewable Resources, and American Crafts—Background Paper.** April 1984, 58 pages. GPO stock #052-003-00951-0; $3.00. NTIS order #PB 84-222 421.

## *Sustaining Tropical Forest Resources*

Examines the importance of tropical forests to the United States and the world, reviews the rates and causes of deforestation and forest degradation, and assesses how U.S. technology could help alleviate this resource problem.

**Technologies To Sustain Tropical Forest Resources.** March 1984; 352 pages. GPO stock #052-003-00943-9; $10.00. NTIS order #PB 84-175 637.

**Summary** available from OTA Publishing Office.

**Sustaining Tropical Forest Resources: Reforestation of Degraded Lands—Background Paper #1.** May 1983; 55 pages. NTIS order #PB 84-104 041.

**Sustaining Tropical Forest Resources: U.S. and International Institutions—Background Paper #2.** May 1983; 65 pages. GPO stock #052-003-00910-2; $4.50. NTIS order #PB 84-104 058.

## *Water and Agriculture in U.S. Arid/Semiarid Lands*

Assesses existing and emerging water-related technologies for their ability to support long-term productivity of arid/semiarid agricultural plants and animals in the context of institutional factors, water supply/use relationships, and the characteristics of the renewable natural resource base on which agriculture depends.

**Water-Related Technologies for Sustainable Agriculture in U.S. Arid/Semiarid Lands.** October 1983; 412 pages. GPO stock #052-003-00930-7; $8.50. NTIS order #PB 84-172 667.

**Summary** available from OTA Publishing Office.

**Water-Related Technologies for Sustainable Agriculture in Arid/Semiarid Lands: Selected Foreign Experience—Background Paper.** May 1983; 82 pages. GPO stock #052-003-00911-1; $4.50. NTIS order #PB 84-102 912.

## *Plants: The Potentials for Extracting Protein, Medicines, and Other Useful Chemicals*

Identifies technological opportunities and constraints for commercially developing protein, pharmaceuticals, chemicals, and other associated extracts from plants.

**Plants: The Potentials for Extracting Protein, Medicines, and Other Useful Chemicals—Workshop Proceedings.** September 1983; 252 pages. GPO stock #052-003-00929-3; $6.50. NTIS order #PB 84-114 743.

## *U.S. Cropland and Rangeland Productivity*

Assesses the effects of currently used technologies on the capacity of the cropland and rangeland resource base to sustain high levels of production. Evaluates emerging technologies that might be used to reverse adverse effects of some of the established technologies.

**Impacts of Technology on U.S. Cropland and Rangeland Productivity.** August 1982; 266 pages. NTIS order #PB 83-125 013.

**Summary** available from OTA Publishing Office.

**Volume II, Background Papers: Parts A-F,** available from NTIS.

## *U.S. Food and Agricultural Research*

Analyzes the scientific base for establishing national, regional, and local research problems and the role of Federal, State, and private institutions in solving these problems. Evaluates methods in identifying priority research areas, the adequacy of present basic and applied research efforts, and public policy options.

**An Assessment of the United States Food and Agricultural Research System.** December 1981; 212 pages. NTIS order #PB 82-170 572.

**Summary** available from OTA Publishing Office.

**Volume II, Commissioned Papers: Parts A-C,** available from NTIS.

**Agricultural Postharvest Technology and Marketing Economics Research—A Technical Memorandum.** April 1983; 118 pages. GPO stock #052-003-00907-2; $5.00. NTIS order #PB 83-232 835.

## *Environmental Contaminants in Food*

Discusses the different types and sources of chemical and radioactive contaminants in food, considers the economic costs and health dangers they pose, and evaluates present Federal and State programs for regulating and monitoring these substances.

**Environmental Contaminants in Food.** December 1979; 229 pages. NTIS order #PB 80-153 265.

**Volume II, Working Papers: Parts A and B,** available from NTIS.

## *Pest Management Strategies*

Reviews the array of tactics currently used to control agricultural pests and examines the potential benefits of integrated pest management.

**Pest Management Strategies in Crop Protection.** October 1979; 132 pages. NTIS order #PB 80-120 017.

**Volume II, Working Papers,** available from NTIS.

## *Open Shelf-Life Dating of Food*

Addresses the practicality, benefits, and costs of open shelf-life dating of food products to inform consumers of freshness and identifies Federal policy options on food dating.

**Open Shelf-Life Dating of Food.** August 1979; 108 pages. GPO stock NTIS order #PB 80-101 629.

## *Drugs in Livestock Feed*

Analyzes the use of antibacterial and other drugs to promote growth and prevent disease in livestock, and the implications for human health of the low levels at which these drugs are administered.

**Drugs in Livestock Feed: Technical Report.** June 1979; 67 pages. NTIS order #PB 298 450.

## *Food Marketing Technologies*

Examines new and emerging technologies for marketing food for their current state of development, probability of being adopted, the extent to which they are or will be used, their expected impacts, and the policy issues they raise. Also identifies those technologies that require further study.

**Emerging Food Marketing Technologies: A Preliminary Analysis.** October 1978; 88 pages. NTIS order #PB 291 039.

## *Nutrition Research*

Evaluates alternative strategies to redirect Federal research toward examining the relationship between nutrition and the changing health problems of Americans. Administrative means for implementing the strategies are also considered.

**Nutrition Research Alternatives.** September 1978; 77 pages. NTIS order #PB 289 825.

## *Food Research and Development*

Evaluates alternative methods for organizing and funding basic research in the biological sciences that is designed to increase food production, and identifies three specific areas that possess opportunity for fundamental scientific discoveries.

**Organizing and Financing Basic Research To Increase Food Production.** June 1977; 38 pages. NTIS order #PB 273 182.

## *Retail Food Grading*

Assesses the capability of the current food grading system used by the Federal Government, as well as that of alternative systems that could be adopted, to give consumers adequate information concerning the nutritional value of food products sold on grocers' shelves.

**Perspectives on Federal Retail Food Grading.** June 1977; 87 pages. NTIS order #PB 273 163.

## *Food Information Systems—Summary and Analysis*

Summarizes and integrates information generated on information systems designed to collect data on world food supply and demand.

**Food Information Systems—Summary and Analysis.** August 1976; 86 pages. NTIS order #PB 258 142.

# HEALTH

## *Medicare's Prospective Payment System: Strategies for Evaluating Cost, Quality, and Medical Technology*

Examines Medicare's hospital payment system—prospective payment based on diagnosis-related groups (DRGs), and the impact of the development and use of medical technology. The assessment identifies the range of possible effects related to medical technology and its use; evaluation measures; ongoing or planned monitoring and evaluation activities; shortcomings and gaps in these activities; and develops an overall design for evaluation, including timing, methodology, priorities, and the role of current or planned efforts.

**Medicare's Prospective Payment System: Strategies for Evaluating Cost, Quality, and Medical Technology.** In progress, contact OTA Publishing Office.

## *Biomedical Research for Tropical Diseases*

Examines the status of biomedical and epidemiological research and related technology development in the area of tropical diseases, identifies areas of promise for continued or increased funding, and presents a series of options for making decisions about research funding, technology development and testing, and other policies regarding tropical diseases.

**Status of Biomedical Research and Related Technology for Tropical Diseases.** September 1985; 294 pages. GPO stock #052-003-00987-1; $11.00.

**Summary** available from OTA Publishing Office.

Reviews the quality and relevance of activities at the Gorgas Memorial Laboratory (GML), based on Gorgas's publishing record, an OTA-commissioned survey of GML's scientific reputation, a critical review of recent articles and current manuscripts, a comparison of GML's areas of effort with health problems in tropical America and with scientific opportunity, a review of past scientific evaluations of GML, and an examination of its record of competing for grants and contracts.

**Quality and Relevance of Research and Related Activities at the Gorgas Memorial Laboratory—A Technical Memorandum.** August 1983; 93 pages.

## *Preventing Illness and Injury in the Workplace*

Develops information about research and development, diffusion, application, and evaluation of workplace control technologies. Engineering controls, worker education programs, personal protective devices, and interrelationships between them and their role in worker protection are evaluated.

**Preventing Illness and Injury in the Workplace.** April 1985; 434 pages. GPO stock #052-003-00978-1; $15.00.

**Summary** available from OTA Publishing Office.

**Potential Office Hazards and Controls.** A contractor report. September 1984; 185 pages. NTIS order #PB 85-139 210.

**Volume II: Working Papers: Parts A-C,** available from NTIS.

## *Blood Policy and Technology*

Assesses technologies affecting the availability, users, and risks of blood. Areas assessed are: blood collection, processing, storage, and distribution; identification, isolation, production, and use of blood components; blood substitutes; and identification and prevention of blood-transmitted diseases and other risks.

**Blood Policy and Technology.** January 1985; 248 pages. GPO stock #052-003-00977-3; $7.50. NTIS order #PB 85-234 870.

**Summary** available from OTA Publishing Office.

**Review of the Public Health Service's Response to AIDS—A Technical Memorandum.** February 1985; 168 pages. GPO stock #052-003-00984-6; $5.50.

## *Federal Policies and the Medical Devices Industry*

Develops information about the nature of firms that manufacture medical technologies, conducts case studies of selected medical devices, and examines present and proposed Federal policies that influence the medical devices industry and the cost and effectiveness of medical devices.

**Federal Policies and the Medical Devices Industry.** October 1984; 258 pages. GPO stock #052-003-00965-0; $7.00. NTIS order #PB 85-199 552. Also available in hardback from Pergamon Press, Inc., Elmsford, NY.

**Summary** available from OTA Publishing Office.

**Case Study #27: Nuclear Magnetic Resonance Imaging Technology: A Clinical, Industrial, and Policy Analysis.** September 1984; 156 pages. GPO stock #052-003-00964-1; $5.50. NTIS order #PB 85-146 207/AS.

**Case Study #29: Boston Elbow.** November 1984; 44 pages. GPO stock #052-003-00972-2; $2.50. NTIS order #PB 85-145 936/AS.

**Case Study #30: The Market for Wheelchairs: Innovation and Federal Policy.** November 1984; 68 pages. GPO stock #052-003-00973-1; $3.00. NTIS order #PB 85-145 944/AS.

**Case Study #31: Contact Lenses.** December 1984; 76 pages. GPO stock #052-003-00981-1; $3.00. NTIS order #PB 85-204 451/AS.

**Case Study #32: Hemodialysis Equipment.** December 1984; 80 pages. GPO stock #052-003-00982-0; $3.00. NTIS order #PB 85-154 953.

**Case Study #33: Technologies for Managing Urinary Incontinence.** July 1985; 75 pages. GPO stock #052-003-00999-4; $3.25. NTIS order #PB 85-240 208.

**Procurement and Evaluation of Medical Devices by the Veterans Administration—A Technical Memorandum.** February 1985; 116 pages. GPO stock #052-003-00988-9; $4.25.

## *Abstracts of Case Studies in the Health Technology Case Study Series*

Contains a description of the OTA "Health Technology Case Study Series" and abstracts of each of the case studies published.

**Abstracts of Case Studies in Health Technology Case Study Series.** February 1985; 55 pages. Available from OTA Publishing Office.

## *Medical Technology and Costs of the Medicare Program*

Examines a range of policies to contain Medicare costs and impacts on the adoption and use of medical technology.

**Medical Technology and Costs of the Medicare Program.** July 1984; 230 pages. GPO stock #052-003-00957-9; $7.50. NTIS order #PB 85-146 215.

**Summary** available from OTA Publishing Office.

Analyzes a broad range of mechanisms to reduce or limit Medicare costs related to medical technology. Includes case studies, technical memoranda, and background papers of particular medical technologies.

**Case Study #22: The Effectiveness and Costs of Alcoholism Treatment.** March 1983; 98 pages. GPO stock #052-003-00902-1; $5.50. NTIS order #PB 83-192 492.

**Case Study #23: The Safety, Efficacy, and Cost Effectiveness of Therapeutic Apheresis.** July 1983; 165 pages. NTIS order #PB 84-114 842.

**Case Study #24: Variations in Hospital Length of Stay: Their Relationship to Health Outcomes.** August 1983; 85 pages. GPO stock #052-003-00922-6; $4.50. NTIS order #PB 84-111 483.

**Diagnosis Related Groups (DRGs) and the Medicare Program: Implications for Medical Technology—A Technical Memorandum.** July 1983; 82 pages. GPO stock #052-003-00919-6; $4.50. NTIS order #PB 84-111 525.

**Working Paper: Diagnosis Related Groups (DRGs) and the Medicare Program: Using Diagnosis Related Groups in Hospital Payment—The New Jersey Experience.** NTIS order #PB 84-193 606.

**Case Study #28: Intensive Care Units (ICUs): Clinical Outcomes, Costs, and Decisionmaking.** November 1984; 98 pages. GPO stock #052-003-00971-4; $4.25. NTIS order #PB 85-145 928/AS.

**Case Study #34: The Cost Effectiveness of Digital Subtraction Angiography in the Diagnosis of Cerebrovascular Disease.** May 1985; 67 pages. GPO stock #052-003-00998-6; $2.50. NTIS order #PB 85-241 115/AS.

**Case Study #35: Efficacy, Safety, and Cost Effectiveness of Continuous Ambulatory Peritoneal Dialysis.** September 1985; 75 pages. GPO stock #052-003-01002-0; $3.25.

## *Scientific Validity of Polygraph Testing*

Presents the results of the OTA review and assessment of the scientific evidence on the validity of polygraph testing.

**Scientific Validity of Polygraph Testing: A Research Review and Evaluation—A Technical Memorandum.** November 1983; 138 pages. GPO stock #052-003-00934-0; $5.50. NTIS order #PB 84-181 411.

## *Randomized Clinical Trials*

Brings together the literature and current views about the actual and potential role of randomized clinical trials in decisionmaking about medical technologies.

**The Impact of Randomized Clinical Trials on Health Policy and Medical Practice—Background Paper.** August 1983; 109 pages. NTIS order #PB 84-114 560.

## *Premanufacture Notices*

OTA examined 740 Premanufacture Notices, and this study reports the results of analyzing those notices for the presence of the information specified by the Toxic Substances Control Act and for additional relevant information.

**The Information Context of Premanufacture Notices—Background Paper.** April 1983; 91 pages. NTIS order #PB 83-241 059.

## *Postmarketing Surveillance of Prescription Drugs*

Describes the drug approval process, the history and objectives of postmarketing surveillance, the methods employed to accomplish it, and current activities in postmarketing surveillance.

**Postmarketing Surveillance of Prescription Drugs.** November 1982; 80 pages. GPO stock #052-003-00893-9; $5.00. NTIS order #PB 83-173 625.

## *Proposals To Increase Competition in Health Care*

Focuses on proposals for increased cost-sharing by patients and greater competition among plans.

**Medical Technology Under Proposals To Increase Competition in Health Care.** October 1982; 156 pages. NTIS order #PB 83-164 046.

**Summary** available from OTA Publishing Office.

## *Strategies for Medical Technology Assessment*

Focuses on the flow of information that is central to an effective assessment system. Critiques the current assessment system with respect to identifying medical technologies for assessment; developing and synthesizing information about such technologies' health, economic, and social effects; and disseminating this information to health care decisionmakers.

**Strategies for Medical Technology Assessment.** September 1982; 227 pages. NTIS order #PB 83-113 274.

**Summary** available from OTA Publishing Office.

**MEDLARS and Health Information Policy—A Technical Memorandum.** September 1982; 150 pages. GPO stock #052-003-00891-2; $6.50. NTIS order #PB 83-168 658.

## *Technology and Handicapped People*

Examines the specific factors that affect the research and development, evaluation, diffusion and marketing, delivery, use, and financing of technologies directly related to disabled people.

**Technology and Handicapped People.** May 1982; 214 pages. NTIS order #PB 83-172 056. Also available in hardback from Springer Publishing Co., Inc., New York, NY. Also available in "talky book" special cassette form from the Library of Congress.

**Summary** available from OTA Publishing Office. Available in braille from the Library of Congress.

**Case Study #25: Technology and Learning Disabilities.** December 1983; 72 pages. GPO stock #052-003-00936-6; $3.00. NTIS order #PB 84-184 043.

**Case Study #26: Assistive Devices for Severe Speech Impairments.** December 1983; 64 pages. NTIS order #PB 84-175 371.

**Mandatory Passive Restraint Systems in Automobiles: Issues and Evidence—Background Paper #1.** September 1982; 50 pages. NTIS order #PB 83-159 822.

**Selected Telecommunications Devices for Hearing-Impaired Persons—Background Paper #2.** December 1982; 28 pages. GPO stock #052-003-00898-0; $3.50. NTIS order #PB 83-169 292.

**Working Papers 1-6** available from NTIS.

## *Technology Transfer at the National Institutes of Health*

Presents general information on biomedical R&D and its relationship to technology transfer, and on the processes of transferring medical technology and of assessing that technology. Discusses the current technology transfer activities of NIH and contains detailed looks at two specific institutes.

**Technology Transfer at the National Institutes of Health—A Technical Memorandum.** March 1982; 188 pages. NTIS order #PB 82-202 904.

## *Cost Effectiveness of Influenza Vaccine*

Examines the cost effectiveness of influenza vaccine using data on health effects and medical care costs produced by influenza vaccine from 1972 to 1978. Suggests ways to increase the use of the vaccine.

**Cost-Effectiveness Analysis of Inactivated Influenza Vaccine.** December 1981; 67 pages. NTIS order #PB 82-178 492.

## *Cancer Risks From the Environment*

Examines four major issues: estimates of the percentage of cancer due to environmental exposure, technologies used to test for carcinogenicity, methods used for extrapolating data from animals to humans, and regulatory pathways for controlling carcinogens.

**Assessment of Technologies for Determining Cancer Risks From the Environment.** June 1981; 242 pages. GPO stock #052-003-00832-7; $7.50. NTIS order #PB 81-235 400. Also available in hardback under the title: "Cancer Risks: Assessing and Reducing the Dangers in Our Society" from Westview Press, Inc., Boulder, CO.

**Summary** available from OTA Publishing Office.

## *Cost Effectiveness of Medical Technology*

Analyzes the feasibility, implications, and usefulness of cost-effectiveness analysis (CEA) and cost-benefit analysis (CBA) in health care decisionmaking, including the current and potential use of CEA/CBA or related techniques in six health care activities: reimbursement programs, Professional Standards Review Organizations, health planning, market approval for drugs and medical devices, R&D programs, and health maintenance organizations.

**The Implications of Cost-Effectiveness Analysis of Medical Technology.** August 1980; 219 pages. NTIS order #PB 80-216 864.

**Summary** available from OTA Publishing Office.

**Background Paper #1: Methodological Issues and Literature Review.** September 1980; 138 pages. NTIS order #PB 81-144 602.

**Background Paper #2: Case Studies of Medical Technologies.**—17 case studies:

**Case Study #1: Formal Analysis, Policy Formulation, and End-Stage Renal Disease.** April 1981; 25 pages. NTIS order #PB 81-209 769.

**Case Study #2: The Feasibility of Economic Evaluation of Diagnostic Procedures: The Case of CT Scanning.** April 1981; 24 pages. NTIS order #PB 81-209 777.

**Case Study #3: Screening for Colon Cancer: A Technology Assessment.** April 1981; 19 pages. NTIS order #PB 81-209 785.

**Case Study #4: Cost Effectiveness of Automated Multichannel Chemistry Analyzers.** April 1981; 25 pages. NTIS order #PB 81-209 793.

**Case Study #5: Periodontal Disease: Assessing the Effectiveness and Costs of the Keyes Technique.** May 1981; 32 pages. NTIS order #PB 81-221 780.

**Case Study #6: The Cost Effectiveness of Bone Marrow Transplant Therapy and Its Policy Implications.** May 1981; 15 pages. NTIS order #PB 81-221 798.

**Case Study #7: Allocating Costs and Benefits in Disease Prevention Programs: An Application to Cervical Cancer Screening.** May 1981; 32 pages. NTIS order #PB 81-221 806.

**Case Study #8: The Cost Effectiveness of Upper Gastrointestinal Endoscopy.** May 1981; 21 pages. NTIS order #PB 81-221 814.

**Case Study #9: The Artificial Heart: Cost, Risks, and Benefits.** May 1982; 94 pages. NTIS order #PB 82-239 971.

**Case Study #10: The Costs and Effectiveness of Neonatal Intensive Care.** August 1981; 51 pages. GPO stock #052-003-00845-9; $4.25. NTIS order #PB 82-101 411.

**Case Study #11: Benefit and Cost Analysis of Medical Interventions: The Case of Cimetidine and Peptic Ulcer Disease.** September 1981; 72 pages. NTIS order #PB 82-118 910.

**Case Study #12: Assessing Selected Respiratory Therapy Modalities: Trends and Relative Costs in the Washington, D.C. Area.** July 1981; 23 pages. NTIS order #PB 82-101 122.

**Case Study #13: Cardiac Radionuclide Imaging and Cost Effectiveness.** May 1982; 59 pages. NTIS order #PB 82-239 989.

**Case Study #14: Cost Benefit/Cost Effectiveness of Medical Technologies: A Case Study of Orthopedic Joint Implants.** September 1981; 28 pages. NTIS order #PB 82-120 833.

**Case Study #15: Elective Hysterectomy: Costs, Risks, and Benefits.** October 1981; 40 pages. NTIS order #PB 82-122 326.

**Case Study #16: The Costs and Effectiveness of Nurse Practitioners.** July 1981; 37 pages. NTIS order #PB 82-101 064.

**Case Study #17: Surgery for Breast Cancer.** October 1981; 29 pages. NTIS order #PB 82-124 181.

**Background Paper #3: The Efficacy and Cost Effectiveness of Psychotherapy.** October 1980; 93 pages. NTIS order #PB 81-144 610.

**Background Paper #4: The Management of Health Care Technology in Ten Countries.** October 1980; 222 pages. NTIS order #PB 81-144 628.

**Background Paper #5: Assessment of Four Common X-Ray Procedures.** April 1982; 63 pages. GPO stock #052-003-00872-6; $4.50. NTIS order #PB 83-165 506.

## *Physician Supply and Requirements*

Analyzes the assumptions, methods, and conclusions of the technologies for forecasting both the need for and supply of physicians by specialty and geographical distribution.

**Forecasts of Physician Supply and Requirements.** April 1980; 86 pages. NTIS order #PB 80-181 670.

## *Computers in Medical Education and Assessment*

Describes current uses of computers in medicine and summarizes the impact of computer technology on medical education, practice, and evaluation.

**Computer Technology in Medical Education and Assessment—Background Paper.** September 1979; 139 pages. NTIS order #PB 80-102 528.

## *Federal Vaccine and Immunization Policies*

Analyzes Federal policies related to four areas of vaccine and immunization activities: financing vaccine research and development, evaluating vaccine safety and efficacy, reimbursing for vaccine use, and compensating for vaccine-related injuries. Uses case studies involving pneumococcal vaccine.

**Update of Federal Activities Regarding the Use of Pneumococcal Vaccine.** May 1984; 52 pages. GPO stock #052-003-00955-2; $2.50. NTIS order #PB 85-128 155.

**A Review of Selected Federal Vaccine and Immunization Policies Based on Case Studies of Pneumococcal Vaccine.** September 1979; 208 pages. NTIS order #PB 80-116 106.

**Compensation for Vaccine-Related Injuries—A Technical Memorandum.** November 1980; 105 pages. NTIS order #PB 81-163 909.

## *Federal Health Statistics*

Examines data systems used in Federal health programs and offers alternatives for their effective management. Also lists laws that authorize the then Department of Health, Education, and Welfare to collect and maintain health data.

**Selected Topics in Federal Health Statistics.** June 1979; 212 pages. NTIS order #PB 298 449.

## *Efficacy and Safety of Medical Technologies*

Evaluates the need for assessments of the efficacy and safety of medical technologies before they go into widespread use. Also reports on 17 brief case studies, including mammography, amniocentesis, electronic fetal monitoring, and treatment for Hodgkin's disease, as illustrative of the technologies and issues involved.

**Assessing the Efficacy and Safety of Medical Technologies.** September 1978; 133 pages. NTIS order #PB 286 929.

## *CT Scanners*

Analyzes issues such as efficacy, health planning, use, and financing arising from the widespread adoption of the computed tomography (CT) scanner, an expensive diagnostic device that combines X-ray equipment with a computer and television-like tube to produce cross-sectional images of the body.

**Policy Implications of the Computed Tomography (CT) Scanner.** August 1978; 195 pages. NTIS order #PB 284 872.

**Policy Implications of Computed Tomography (CT) Scanner: An Update—Background Paper.** January 1981; 112 pages. NTIS order #PB 81-163 917.

## *Policy Implications of Medical Information Systems*

Examines the potential of computer-based medical information systems, which process both administrative and medical data, to affect the quality, cost, and efficiency of medical care. Examines the benefits and limitations of such systems, factors influencing their adoption, and possible Federal policy alternatives regarding their development and use.

**Policy Implications of Medical Information Systems.** November 1977; 79 pages. NTIS order #PB 274 857.

## *Cancer Testing Technology and Saccharin*

Assesses the capacity of current testing methodology to predict the carcinogenic potential of chemicals consumed by humans. Specifically evaluates the potential of saccharin to cause cancer in humans. Also evaluates the potential health benefits of saccharin and the availability of alternative artificial sweeteners.

**Cancer Testing Technology and Saccharin.** October 1977; 149 pages. NTIS order #PB 273 499.

## *Development of Medical Technology*

Examines the need for assessing the potential social impacts of emerging medical technologies while they are being developed. In addition, formulates an initial list of questions that might be used to elicit information about the effects of such new technologies. Also presents nine brief case histories illustrating the complexities of medical technologies, their development, and the variety of questions resulting from their existence.

**Development of Medical Technology: Opportunities for Assessment.** August 1976; 104 pages. NTIS order #PB 258 117.

# COMMUNICATION & INFORMATION TECHNOLOGIES

## *Automation of America's Offices*

Analyzes plausible trends in office automation over the next decade; examines the social and economic impacts of its use; and examines the effects of Federal policy options on the further development and use of office technologies in the public and private sectors.

**Automation of America's Offices.** In progress, contact OTA Publishing Office.

## *Information Technology Research and Development*

Analyzes Federal policy, both directly by trends in R&D support and indirectly by tax, antitrust, regulatory, copyright, and education policy.

**Information Technology R&D: Critical Trends and Issues.** February 1985; 352 pages. GPO stock #052-003-00976-5; $9.50. NTIS order #PB 85-245 660/AS.

**Summary** available from OTA Publishing Office.

## *Financial Services Systems*

Examines technologies that are likely to be employed in delivering financial services in the future; the nature of the services that may be provided; and alternative structures of the financial services industry that may emerge as a result of applying new and existing technologies, particularly as they interact with Federal policy.

**Effects of Information Technology on Financial Services Systems.** September 1984; 282 pages. GPO stock #052-003-00961-7; $7.50. NTIS order #PB 85-152 619/AS.

**Summary** available from OTA Publishing Office.

## *Review of Postal Automation Strategy*

Reviews the U.S. Postal Service (USPS) decision to utilize single-line optical character readers (OCRs) instead of multi-line OCRs, and to conduct a comparative technical and economic analysis of the two technologies in the context of the overall postal automation program.

**Review of Postal Automation Strategy: A Technical and Decision Analysis—A Technical Memorandum.** June 1984; 104 pages. NTIS order #PB 85-127 843.

## *Computerized Manufacturing Automation*

Assesses trends and the state of R&D in computerized manufacturing technologies over this decade; the development of industries producing computerized manufacturing equipment, software, and services; the potential utility of computerized automation for various categories of manufacturing industries that might use it; impacts on employment;

implications for education and training; and analyzes the impacts of Federal policy options on the development and use of computerized automation systems in U.S. manufacturing.

**Computerized Manufacturing Automation: Employment, Education, and the Workplace.** April 1984, 471 pages. GPO stock #052-003-00949-8; $14.00. NTIS order #PB 84-196 500.

**Summary** available from OTA Publishing Office.

**Volume II: Working Papers: Parts A-C,** available from NTIS.

**Automation and the Workplace: Selected Labor, Education, and Training Issues—A Technical Memorandum.** March 1983; 112 pages. NTIS order #PB 83-191 320.

## *Technology and Education*

Provides an overview of the issues relating to the educational applications of the new information technologies. It examines both the demands that the information revolution will make on education and the opportunities afforded by the new information technologies to meet those demands.

**Informational Technology and Its Impact on American Education.** November 1982; 280 pages. GPO stock #052-003-00888-2; $8.00. NTIS order #PB 83-174 664.

**Summary** available from OTA Publishing Office.

## *Radiofrequency Use and Management*

Analyzes the record of an 11-week conference held in Geneva, Switzerland, by major world representatives to review and adjust the global allocation of uses of the radio magnetic spectrum. Identifies the conference's major results and projected impacts and the role of U.S. participation in this and future conferences.

**Radiofrequency Use and Management: Impacts From the World Administrative Radio Conference of 1979.** January 1982; 163 pages. NTIS order #PB 82-177 536.

**Summary** available from OTA Publishing Office.

## *Societal Impacts of National Information Systems*

Includes an overview study—Computer-Based National Information Systems—and three information system case studies—National Crime Information Center of the FBI; electronic mail and message systems; and electronic funds transfer.

**Computer-Based National Information Systems: Technology and Public Policy Issues.** September 1981; 166 pages. GPO stock #052-003-00852-1; $6.50. NTIS order #PB 82-126 681. Also available in hardcover from Petrocelli Books, Inc., Princeton, NJ.

**Summary** available from OTA Publishing Office.

**An Assessment of Alternatives for a National Computerized Criminal History System.** October 1982; 208 pages. NTIS order #PB 83-166 678.

**Summary** available from OTA Publishing Office.

**A Preliminary Assessment of the National Crime Information Center and the Computerized Criminal History System.** December 1978; 84 pages. NTIS order #PB 291 845.

**Implications of Electronic Mail and Message Systems for the U.S. Postal Service.** August 1982; 113 pages. NTIS order #PB 83-265 017.

**Summary** available from OTA Publishing Office.

**Selected Electronic Funds Transfer Issues: Privacy, Security, and Equity—Background Paper.** March 1982; 77 pages. NTIS order #PB 82-202 532.

**Volume II: Working Papers: Parts A-G,** available from NTIS.

### *Patent-Term Extension*

Examines the benefits and efficacy of pharmaceutical research and development. Identifies the effects of patent-term extension on the members of government, industry, and society.

**Patent-Term Extension and the Pharmaceutical Industry.** August 1981; 74 pages. NTIS order #PB 82-100 918.

## OCEANS & ENVIRONMENT

### *Oil and Gas Technologies in the Arctic and Deepwater*

Explores the range of technologies required for exploration and development of offshore energy resources and assesses associated economic factors and financial risks. Also evaluates the environmental factors related to energy activities in frontier regions and considers important government regulatory and service programs.

**Oil and Gas Technologies in the Arctic and Deepwater.** May 1985; 236 pages. GPO stock #052-003-00995-1; $8.50.

### *Protecting Groundwater From Contamination*

Provides comprehensive examination of the nature and extent of groundwater contamination, present efforts and capabilities to deal with groundwater contamination problems, and prospects for protecting groundwater quality. Key Federal policy options are also addressed.

**Protecting the Nation's Groundwater From Contamination.** October 1984; 244 pages. GPO stock #052-003-00966-8; $7.50. NTIS order #PB 85-154 201/AS.

**Summary** available from OTA Publishing Office.

**Volume II: Protecting the Nation's Groundwater From Contamination.** October 1984; 263 pages. GPO stock #052-003-00974-9, $7.50. NTIS order #PB 85-154 201/AS.

## *Acid Rain and Transported Air Pollutants*

Characterizes the potential benefits of acting now to abate long-range transport air pollution and the potential costs of action that may be premature.

**Acid Rain and Transported Air Pollutants: Implications for Public Policy.** June 1984; 323 pages. GPO stock #052-003-00956-1; $9.50. NTIS order #PB 84-222 967. Also available in hardcover from UNIPUB, New York, NY.

**Summary** available from OTA Publishing Office.

## *Wetlands*

Presents the findings and conclusions of OTA's analysis of approaches to wetlands use; describes the ecological values of wetlands, trends in wetlands use, and the effect of Federal and State wetland programs on wetlands.

**Wetlands: Their Use and Regulation.** March 1984; 208 pages. GPO stock #052-003-00944-7; $8.00. NTIS order #PB 84-175 918.

**Summary** available from OTA Publishing Office.

**Volume II: Case Studies: Parts 1-7,** available from NTIS.

## *Maritime Trade and Technology*

Traces prevailing conditions and dominant trends that are important to the way the Federal Government assumes its responsibility in developing and implementing policy; contains analyses of the world outlook for trade, shipping, and shipbuilding; identifies where the United States participates and does not participate in these enterprises.

**An Assessment of Maritime Trade and Technology.** October 1983; 240 pages. GPO stock #052-003-00931-5; $6.50. NTIS order #PB 84-177 781.

**Summary** available from OTA Publishing Office.

**Alternative Approaches to Cargo Policy, Supplement.** July 1985; 60 pages. GPO stock #052-003-01006-2; $2.25. NTIS order #PB 85-239 887.

**R&D in the Maritime Industry, Supplement.** May 1985; 60 pages; GPO stock #052-003-00997-8; $2.50.

## *Radioactive Waste*

Presents the findings and conclusions of OTA's analysis of Federal policy for the management and disposal of commercial high-level radioactive waste.

**Managing the Nation's Commercial High-Level Radioactive Waste.** March 1985; 356 pages. GPO stock #052-003-00980-3; $9.50.

**Summary** available from OTA Publishing Office.

## *Water Resources Management*

Examines the potential for mathematical models to increase the effectiveness and lower the cost of water resource management; discusses ways to improve the capabilities of Federal and State agencies to apply these analytic tools.

**Use of Models for Water Resources Management, Planning, and Policy.** August 1982; 242 pages. NTIS order #PB 83-103 655.

**Summary** available from OTA Publishing Office.

## *Ocean Research Technology*

Identifies the technologies and management systems that are most effective in researching four areas: weather and climate, marine pollution, undersea mineral exploration, and fisheries.

**Technology and Oceanography: An Assessment of Federal Technologies for Oceanographic Research and Monitoring.** June 1981; 161 pages. NTIS order #PB 82-101 718.

**Volume II: Working Papers,** available from NTIS.

## *Coal Exports and Port Development*

Addresses four major issues that are important to Federal policy debate: estimating the potential U.S. coal export market, development of foreign trade policy, the Federal role in dredging harbors, and the outlook for alternative technologies.

**Coal Exports and Port Development—A Technical Memorandum.** April 1981; 84 pages. NTIS order #PB 81-203 358. Also available in paperback from Cornell Maritime Press, Centreville, MD.

## *Ocean Margin Drilling*

Evaluates the newly proposed public-private cooperative research effort in marine geology, its scientific merits, problems of technology development, aspects of private participation, Government management, and possible alternatives to the program.

**Ocean Margin Drilling—A Technical Memorandum.** May 1980; 115 pages. NTIS order #PB 80-198 302.

## *Renewable Ocean Energy Sources; OTEC*

The 1978-79 reports examine renewable ocean energy sources that are considered possible contributors to our future energy supply, and evaluates the technical problems and policy decisions that will affect further development of these sources. The 1980 and 1984 reports review and update status of ocean thermal energy conversion (OTEC) developments, including technical accomplishments and remaining technical uncertainties.

**Ocean Thermal Energy Conversion.** May 1978; 44 pages. NTIS order #PB 283 104.

**Working Papers: Parts I and 2,** available from NTIS.

**Recent Developments in Ocean Thermal Energy—A Technical Memorandum.** April 1980; 32 pages. NTIS order #PB 80-201 825.

**Review of Ocean Thermal Energy Systems.** January 1984; 33 pages. Contact the OTA **Oceans and Environment Program** for availability.

## *Liquefied Natural Gas*

Evaluates the status and trends of ongoing and proposed projects involving the transportation and handling of liquefied natural gas, analyzes the technology involved, and discusses nine economic, technological, regulatory, political, and social areas of concern.

**Transportation of Liquefied Natural Gas.** September 1977; 101 pages. NTIS order #PB 273 486.

## *200-Mile Fisheries Zone*

Evaluates the problems and opportunities presented by the new 200-mile U.S. fishery zone, as well as alternative methods for implementing, managing, and enforcing regulations for the zone.

**Establishing a 200-Mile Fisheries Zone.** June 1977; 134 pages. NTIS order #PB 273 578.

**Working Papers,** available from NTIS.

## *Coastal Effects of Offshore Energy Systems*

Assesses social, economic, and environmental impacts of three proposed offshore energy systems—development of oil and gas resources, deepwater ports for oil tankers, and floating nuclear powerplants—on the coastal areas of New Jersey and Delaware, with implications for other coastal areas in the United States and elsewhere in the world.

**Coastal Effects of Offshore Energy Systems.** November 1976; 288 pages. NTIS order #PB 274 033.

**Working Papers,** available from NTIS.

## *Oil Transportation by Tankers*

Examines safety problems of oil tankers and their potential effect on the ecology and quality of the oceans and coastal areas.

**Oil Transportation by Tankers: An Analysis of Marine Pollution and Safety Measures.** July 1975; 288 pages. NTIS order #PB 244 457.

# SCIENCE, TRANSPORTATION, & INNOVATION

## *U.S.-Soviet Cooperation in Space*

Explores potential areas of cooperation in space, advantages and disadvantages of working together in those areas, history of cooperation, and methods of cooperation as well as areas of research.

**U.S.-Soviet Cooperation in Space—A Technical Memorandum.** July 1985; 113 pages. GPO stock #052-003-01004-6; $4.50.

## *Civilian Space Stations and the U.S. Future in Space*

The OTA assessment of civilian space stations examines a range of options regarding the development, acquisition, use, and ownership of long-term infrastructure elements in near-Earth space. The assessment also discusses the possible long-range goals and objectives that should play a large part in determining these infrastructure elements.

**Civilian Space Stations and U.S. Future in Space.** November 1984; 234 pages. GPO stock #052-003-00969-2; $7.50. NTIS order #PB 85-205 391/AS.

**Summary** available from OTA Publishing Office.

**Salyut: Soviet Steps Toward Permanent Human Presence in Space—A Technical Memorandum.** December 1983; 80 pages. GPO stock #052-003-00937-4; $4.50. NTIS order #PB 84-181 437.

## *Airport System Development*

Assesses the technologies and methods available to increase capacity or improve service at airports and the mechanisms by which the technology can be deployed and brought to bear on the problems of civil aviation.

**Airport System Development.** August 1984; 257 pages. GPO stock #052-003-00960-9; $7.50. NTIS order #PB 85-127 793.

**Summary** available from OTA Publishing Office.

## *Technology, Innovation, and Regional Economic Development*

Identifies and describes the efforts of State and local governments, universities, and private sector groups to promote the creation, expansion, and retention of high-technology firms and industries.

**Technology, Innovation, and Regional Economic Development.** July 1984; 167 pages. GPO stock #052-003-00959-5; $5.50. NTIS order #PB 85-150 894/AS.

**Census of State Government Initiatives for High-Technology Industrial Development—Background Paper.** May 1983; 74 pages. GPO stock #052-003-00912-9; $4.50. NTIS order #PB 84-104 033.

**Encouraging High-Technology Development—Background Paper #2.** February 1984; 98 pages. GPO stock #052-003-00942-1; $4.75. NTIS order #PB 84-180 181.

## *U.S. Passenger Rail Technologies*

Assesses high-speed passenger rail technologies, foreign experience with high-speed rail, and issues related to introduction of the technologies in the United States. Railcar manufacturing and magnetic levitation are also included.

**U.S. Passenger Rail Technologies.** December 1983; 120 pages. GPO stock #052-003-00938-2; $4.75. NTIS order #PB 84-182 609.

**Summary** available from the OTA Publishing Office.

## *Space Science Research*

Summarizes and critiques the views of many people interested in space science, several of whom attended an OTA workshop on May 5, 1982.

**Space Science Research in the United States—A Technical Memorandum.** September 1982; 53 pages. NTIS order #PB 83-166 512.

## *Review of FAA National Airspace System Plan*

Critiques the FAA National Airspace System Plan, with emphasis on changes from previous proposals; delineates technological options and alternative strategies of implementation within the general framework of the FAA plan; and analyzes issues of benefits and costs to the Government and airspace users.

**Review of the FAA 1982 National Airspace System Plan.** August 1982; 69 pages. NTIS order #PB 83-102 772.

## *Civilian Space Policy and Applications*

Explores the question of Federal involvement in space R&D, the issues that arise in the transition from R&D to full-fledged operational status, when and under what circumstances commercial involvement is appropriate, and how to respond to commercial competition from overseas.

**Civilian Space Policy and Applications.** June 1982; 391 pages. GPO stock #052-003-00878-5; $9.50. NTIS order #PB 82-234 444.

**Summary** available free from OTA Publishing Office.

## *Global Models, World Futures, and Public Policy*

Evaluates methodologies, findings, and implications of global modeling studies. Examines present use and potential usefulness of this technology as a powerful tool for long-range strategic analysis and policy development.

**Global Models, World Futures, and Public Policy.** April 1982; 120 pages. NTIS order #PB 82-251 299.

## *Airport and Air Traffic Control System*

Provides a perspective on both airport development aid and FAA's proposed air traffic control system modernization.

**Airport and Air Traffic Control System.** January 1982; 141 pages. NTIS order #PB 82-207 606.

## *Technology for Local Development*

Addresses the question of local development and the opportunities for—and appropriateness of—various technologies that can help local people to take advantage of local resources in meeting the needs of their own communities.

**An Assessment of Technology for Local Development.** January 1981; 258 pages. NTIS order #PB 81-189 979.

## *Impact of Advanced Air Transport Technology*

Examines recent advances in the technology of high-speed aircraft and analyzes the economic, environmental, energy, societal, and safety impacts of their widespread introduction. The assessment has been published in four parts: passenger service, program financing and management, service to small communities, and air cargo operations.

**Part 1: Advanced High-Speed Aircraft.** Assesses the economics, feasibility, and uncertainties of developing advanced subsonic and/or supersonic passenger aircraft. April 1980; 106 pages. NTIS order #PB 80-200 504.

**Summary** available from OTA Publishing Office.

**Part 2: Air Cargo—Background Paper.** Analyzes air cargo operations, including the historical background and current status of the air freight industry, economics of air freight, the potential market, competitive concerns and the potential for technological change in future cargo aircrafts. January 1982; 54 pages. NTIS order #PB 82-186 818.

**Part 3: Air Service to Small Communities.** Assesses the economic impacts of low density service, the determinants of market size, conditions of competition, deregulation of the domestic commuter airline industry, and availability of air service to small communities. February 1982; 46 pages. NTIS order #PB 82-186 800.

**Part 4: Financing and Program Alternatives for Advanced High-Speed Aircraft—Background Paper.** Examines the potential financial and managerial barriers to carrying out—at some future date—a large-scale pro-

gram to create a new high-speed, long-range commercial air transport employing new technology. August 1982; 49 pages. NTIS order #PB 83-110585.

## *Advanced Group Rapid Transit*

Examines second-generation automated guideway transit systems as part of a solution to the need for improved urban mass transit. Assesses the technical and economic impacts of system development, evaluates policy options in deployment, and identifies issues requiring further analysis.

**Impact of Advanced Group Rapid Transit Technology.** January 1980; 58 pages. NTIS order #PB 80-153 323.

**Summary** available from OTA Publishing Office.

## *The Automobile Transportation System*

Describes energy, environmental, safety, and cost impacts of technological changes and assesses policy options pertaining to the future use and characteristics of the private car and its supporting systems through the year 2000.

**Changes in the Future Use and Characteristics of the Automobile Transportation System: Volume 1—Summary and Findings.** February 1979; 39 pages. NTIS order #PB 293 645.

**Changes in the Future Use and Characteristics of the Automobile Transportation System: Volume II—Technical Report.** February 1979; 375 pages. NTIS order #PB 293 646.

**Changes in the Future Use and Characteristics of the Automobile Transportation System: Volume III—Public Participation.** October 1979; 72 pages. NTIS order #PB 81-115 545.

## *Railroad Safety*

Evaluates trends in railroad-related accidents, their effects on the railroad industry, and the effectiveness of Federal laws and policies in reducing fatalities and injuries as well as property losses.

**An Evaluation of Railroad Safety.** May 1978; 224 pages. NTIS order #PB 281 169.

## *Automated Guideway Transit*

Examines the social and economic implications of introducing new mass transit technologies in U.S. cities, as well as the means by which three new personal transit technologies might be implemented.

**Automated Guideway Transit: An Assessment of Personal Rapid Transit and Other New Systems.** June 1975; 401 pages. NTIS order # PB 244 854.

# Specialized Reports

## *Natural Hazards*

Evaluates trends in disaster assistance and preparedness; examines the potential for a program of hazards management through prediction, reduction, and control; and identifies the policy issues and economic impacts of such a program.

**U.S. Disaster Assistance to Developing Countries: Lessons Applicable to U.S. Domestic Disaster Programs—Background Paper.** January 1980; 29 pages. NTIS order #PB 80-153 760.

**Criteria for Evaluating the Implementation Plan Required by the Earthquake Hazards Reduction Act of 1977—Background Paper.** January 1980; 67 pages. NTIS order #PB 81-241 663.

**Issues and Options in Flood Hazards Management—Background Paper.** February 1980; 96 pages. NTIS order #PB 80-151 087.

## *Technology Assessment in Business and Government*

Summarizes and analyzes the evolution and influence of technology assessment as a tool for policymaking in Government, business and industry, and the academic research communities, as brought out in 4 days of hearings held June 1976 by the OTA Board.

**Technology Assessment in Business and Government: Summary and Analysis.** January 1977; 32 pages. NTIS order #PB 273 164.

**Hearings: Technology Assessment Activities in the Industrial, Academic, and Governmental Communities**—Compilation of the record of 4 days of hearings by the OTA Board on the development and practice of the technology assessment concept and use of the results of technology assessment in decisionmaking in business (academic research institutions, and Government). December 1976; 391 pages. NTIS order #PB 273 435.

# Administrative

## *Informational Brochure*

States OTA's purpose, outlines its organization, and lists some of its completed projects.

**What OTA Is, What OTA Does, How OTA Works.** Revised January 1985. Available free from OTA Publishing Office.

## *Assessment Activities*

Lists and briefly summarizes OTA's current projects, publications in press, recent publications, and selected publications of interest (updated periodically).

**Assessment Activities.** Revised September 1985. Available free from OTA Publishing Office.

## *Annual Reports*

The annual report presents detailed assessments of the work accomplished by OTA in the preceding year, including a review of management and administrative functions. Of particular importance is a thorough report on the various studies produced by OTA and specific indications of their implications for the technological community. Indications of work in progress are provided and remarks from the OTA Board are included to indicate the extent of congressional oversight.

**Annual Report to the Congress, Fiscal Year 1984.** January 1985; 122 pages. Available from OTA Publishing Office.

**Annual Report to the Congress, January 1 to September 30, 1983.** March 1984; 74 pages. NTIS order #PB 84-173 814.

**Annual Report to the Congress for 1982.** March 1983; 128 pages. NTIS order #PB 83-187 203.

**Annual Report to the Congress for 1981.** March 1982; 109 pages. NTIS order #PB 82-202 862.

**Annual Report to the Congress for 1980.** March 1981; 104 pages. NTIS order #PB 81-189 748.

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